IT- og Telestyrelsen
Ministeriet for Videnskab
Teknologi og Udvikling

National IT and Telecom Agency

Ministry of Science
Technology and Innovation

Mr. John Giusti
Federal Communcations Commission
Washington, DC 20554
US

Dear Mr. John Giusti,

Thank you for your interest in Denmark's broadband Internet market. Below you will find the relevant data and statistics.

Most data is only available in Danish. However, we have translated parts of it into English.

Geographic data is taken from the National IT and Telecom Agency's yearly report on broadband coverage in Denmark, *Bredbåndskortlægning 2008.*

Demographic and socioeconomic data comes from surveys on Danish citizens' ICT usage conducted by Statistics Denmark.

For international comparable data and basic demographic information please refer to the OECD Broadband Portal

http://www.oecd.org/document/54/0,3343,en_2649_34225_38690102_1_1_1_1,00.html

and the European Commission's Eurostat

http://epp.eurostat.ec.europa.eu/portal/page/portal/information_society/data/main_tables

The goal for the Danish government in the broadband area is that all Danish citizens and businesses should have access to broadband (512 kbit/s) by the end of 2010.

To reach this goal the Danish government has a market based approach based on four principles:

- Market-based development of the Danish broadband infrastructure. Infrastructure must be developed on a competitive basis without the use of public funding.
- Technology neutrality in regulation of the market.
- Transparency in regulation.

June 17 2009

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- The public sector must be a driver in the creation of relevant contents on the internet in order to ensure a high demand for broadband.

The Danish government expects to reach the goal of broadband to all citizens by the end of 2010. By now more than 99 per cent of the Danish citizens and businesses have access to a broadband connection.

Therefore, it is time to establish a new vision for the broadband development in Denmark. The Danish government has established the following vision for a future high speed society:

> *Over the next years Denmark should progress into a true high speed society, where citizens and private and public companies anywhere and anytime should be able to connect to the internet by connections which are able to handle the most advanced services online.*

The Danish minister of science, technology and innovation has formed a "high-speed" committee with the aim to formulate concrete goals and means to be fulfilled on the basis of this vision.

The committee shall be able to propose public initiatives that can support:

- The supply of broadband.
- The development of new digital services.
- Solutions that can promote the demand for broadband.

The committee will deliver their final report by the end of 2009. On the basis of the report the Danish government will decide what the next steps shall be.

If you need additional data or information do not hesitate to contact me.

The Danish National IT and Telecom Agency finds the FCC's initiative to depict the current status of broadband deployment around the world very interesting and is very interested in receiving the main findings of the study when such are published.

Best regards,

Finn Petersen
Deputy Director General

Geographic data

All data is measured as the percentage of households and companies that are able to get a broadband connection. Most data is presented at zip code level, which provides a quite fine-grained level of information.

Data is based on information obtained by the National IT and Telecom Agency from the providers operating in Denmark in the autumn of 2008. New data will be collected during the autumn of 2009.

As background information it is worth having the following information:

- Denmark has a total area of 43,098.31 km^2
- The population of Denmark is estimated at 5,511,451 which gives a population density of 127.9 / km^2
- Denmark is divided into five region, 98 municipalities and around 585 zipcodes.

The overall picture on broadband coverage in Denmark shows that less than 21,000 households and companies are not able to get a broadband connection. This means that more than 99% of the total number of households and companies in Denmark are able to get broadband access to the Internet. This calculation does not take mobile broadband (3G – HSDPA with speed up to 7.2 Mbit/s) into account which by mid-2008 was estimated to cover 89% of the country.

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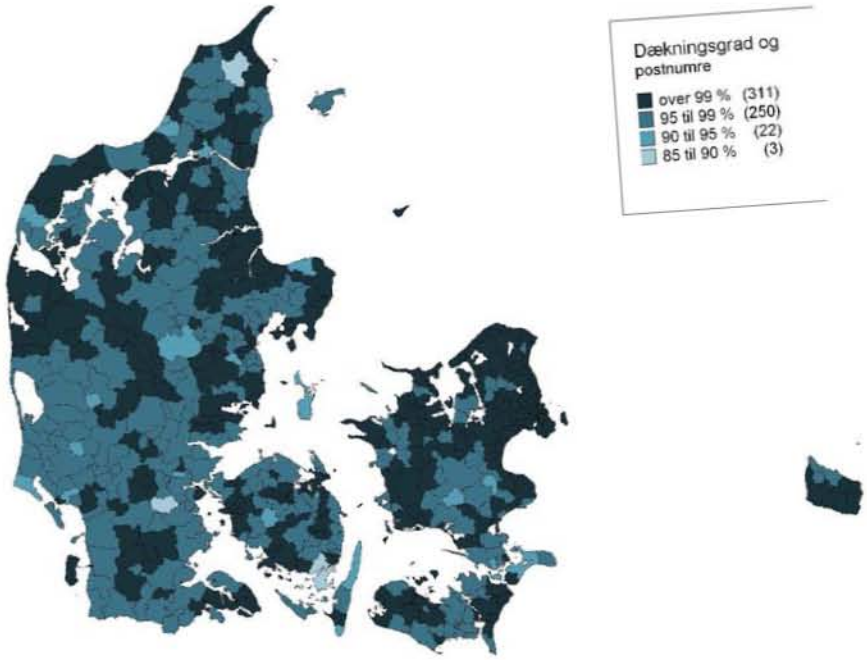

Figure 1: Map over coverage of all fixed broadband technologies to households and companies, distributed by zip code

Figure 1 shows the coverage of all fixed broadband technologies to households and companies by zip code. Dark blue zip codes have more than 99% coverage whereas lighter shades represent less coverage. The number provided in brackets is the exact number of zip codes with the stated coverage.

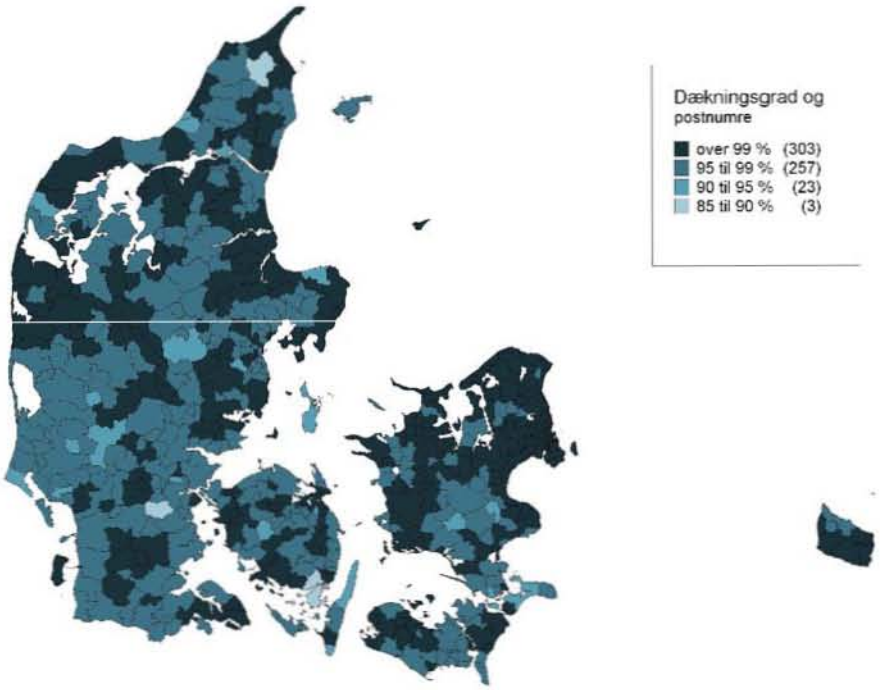

Figure 2: Map over ADSL coverage to households and companies, distributed by zip code

Figure 2 shows the coverage of ADSL broadband connections to households and companies by zip codes. Dark blue zip codes have more than 99% coverage whereas the lighter shades represent lower coverage percentages. This map is almost identical with the map of coverage of all fixed broadband technologies as ADSL is the technology that covers most households and companies in Denmark. The number provided in brackets is the exact number of zip codes with the stated coverage.

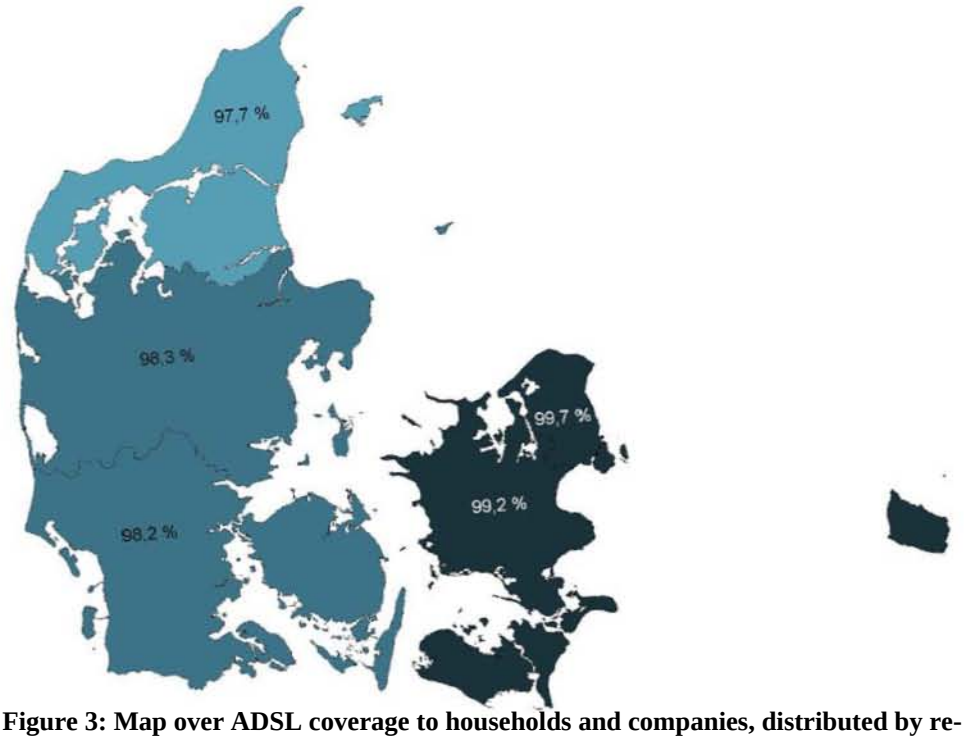

Figure 3: Map over ADSL coverage to households and companies, distributed by regions

Figure 3 shows the coverage of ADSL broadband connections to households and companies by regions. Dark blue regions have more than 99% coverage whereas the lighter shades represent less coverage. Maps of broadband coverage on a regional level have not been made for all fixed broadband technologies but only for ADSL and fiber.

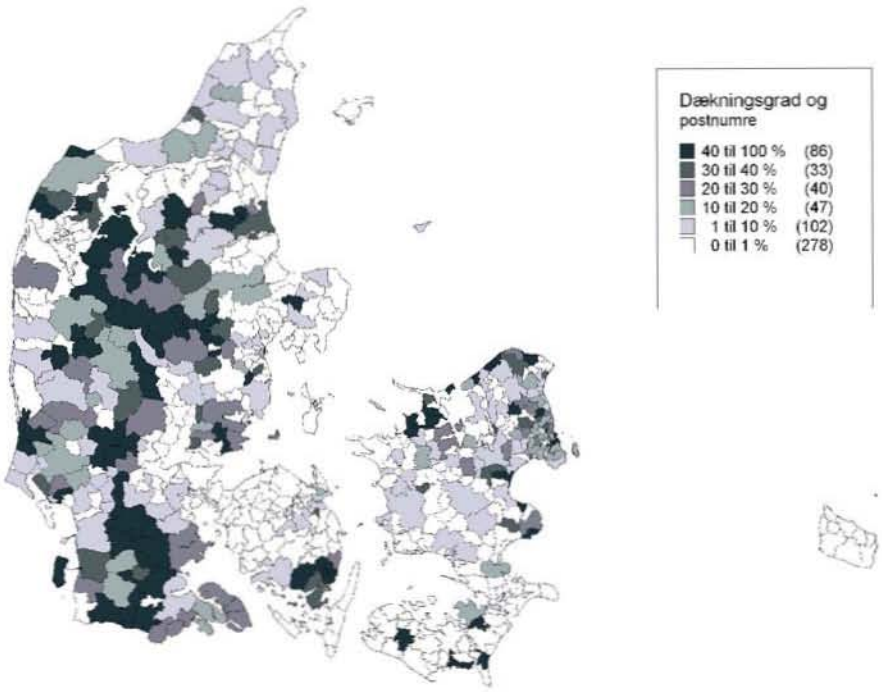

Figure 4: Map over fiber coverage (FTTH and FTTX) to households and companies, distributed by zip code

Figure 4 shows the coverage of fiber connections to households and companies on a zip code level. The darkest zip codes have 40 to 100% coverage whereas the lighter shades represent less coverage. The number provided in brackets is the exact number of zip codes with the stated coverage.

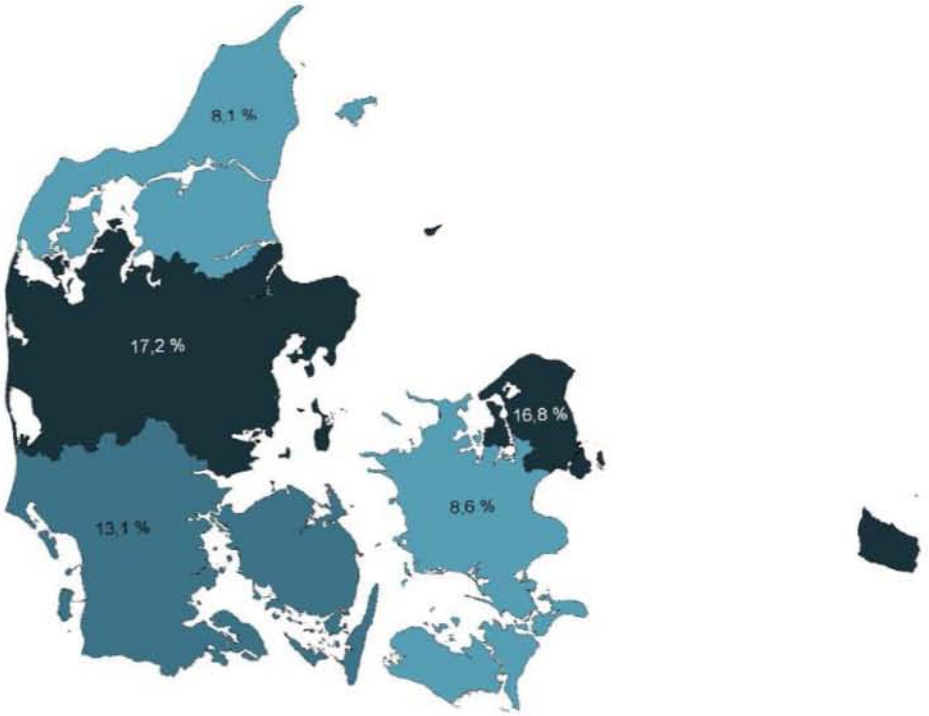

Figure 5: Map over fiber coverage (FTTH and FTTX) distributed by regions

Figure 5 shows the coverage of fiber connections to households and companies on a regional level. Dark blue regions have more the 16% coverage whereas the lighter shades represent less coverage.

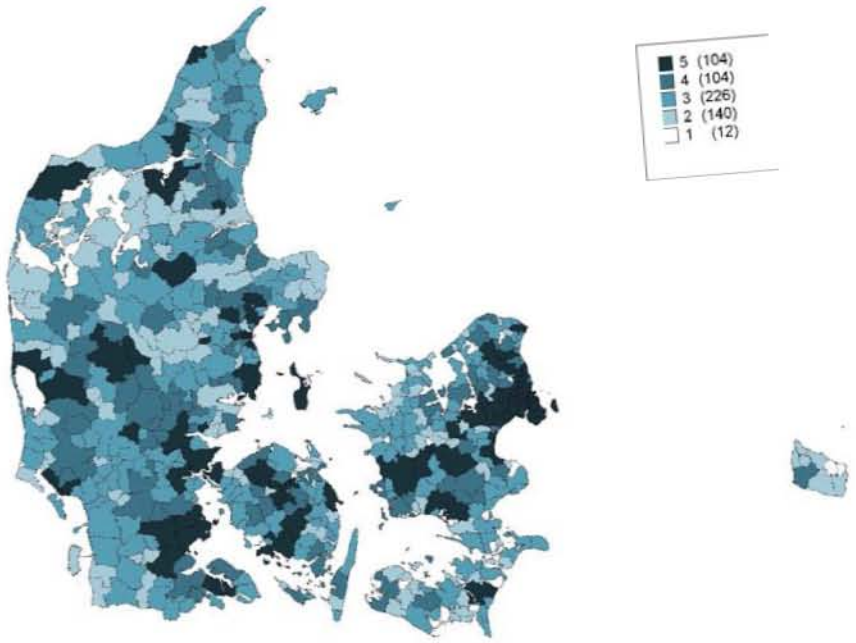

Figure 6: Number of available broadband technologies, distributed by zip code

Figure 6 shows the number of different broadband technologies available in different zip codes. Dark blue zip codes have five different broadband technologies available (ADSL, Fixed wireless access, cable modem, LAN and fiber) whereas the lighter shades represent fewer options. The average is 3.3 different broadband technologies in each zip code. 12 zip codes have only a single broadband technology available.

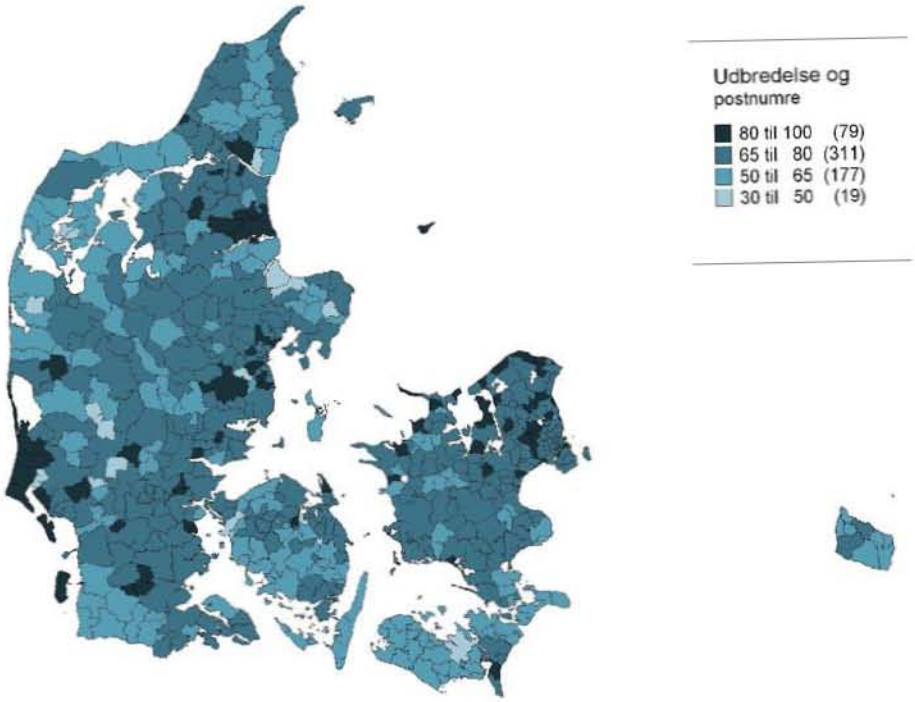

Figure 7: Broadband penetration calculated in relation to households and companies, distributed by zip code

Figure 7 shows the penetration of broadband in terms of the percentage of households and companies that have an actual broadband Internet connection. Dark blue zip codes have a broadband penetration of more than 80% whereas the lighter shades represent lower penetration. The total number of broadband subscriptions by the end of 2008 was 2,041,902. This equals 37 broadband subscriptions for every 100 inhabitants or broadband to 71% of all households and companies.

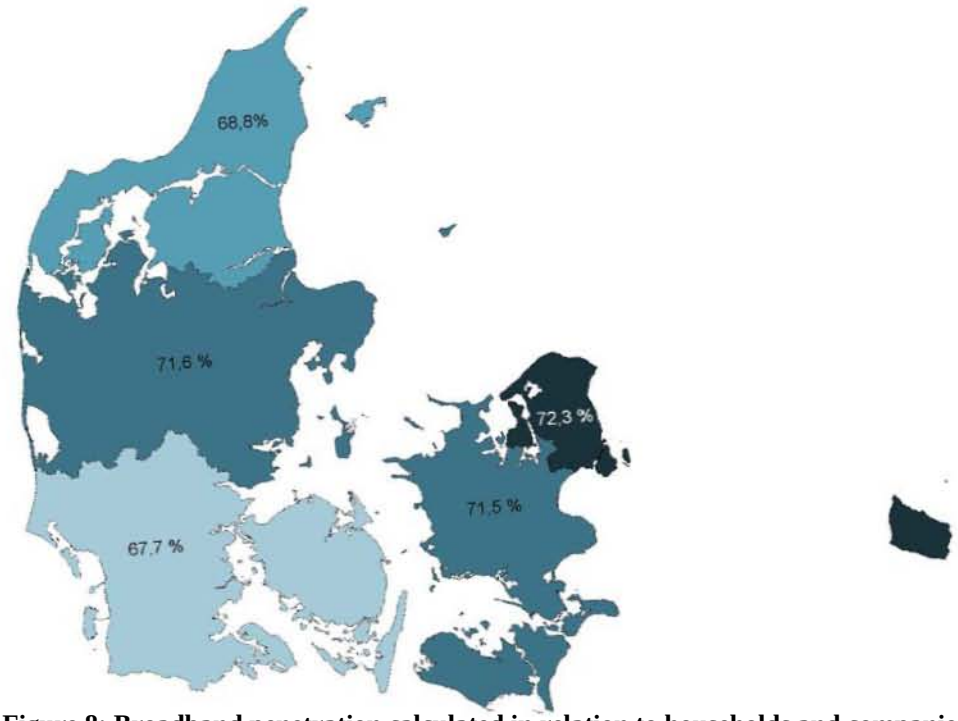

Figure 8: Broadband penetration calculated in relation to households and companies, distributed by regions

Figure 8 shows the penetration of broadband in terms of the percentage of households and companies that have an actual broadband Internet connection on a regional level. Dark blue regions have a penetration of more than 72% whereas the lighter shades represent lower penetration.

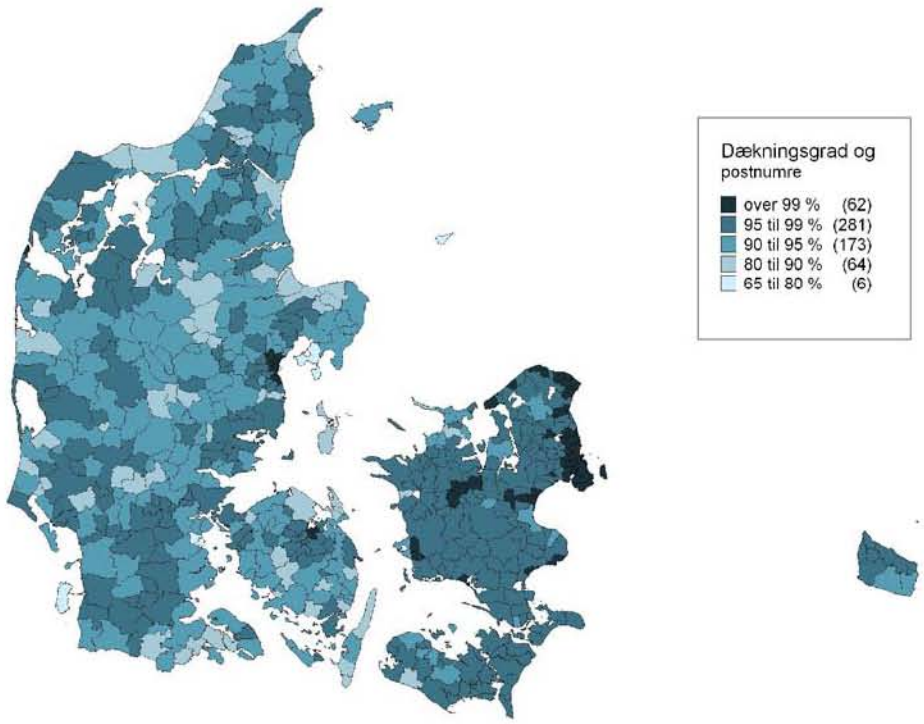

Figure 9: Availability of at least 2 Mbit/s ADSL connections to households and companies, distributed by zip codes

Figure 9 shows the percentage of households and companies that are able to get an ADSL connection of at least 2 Mbit/s distributed on zip codes. Dark blue zip codes have more than 99% coverage whereas the lighter shades represent less coverage.

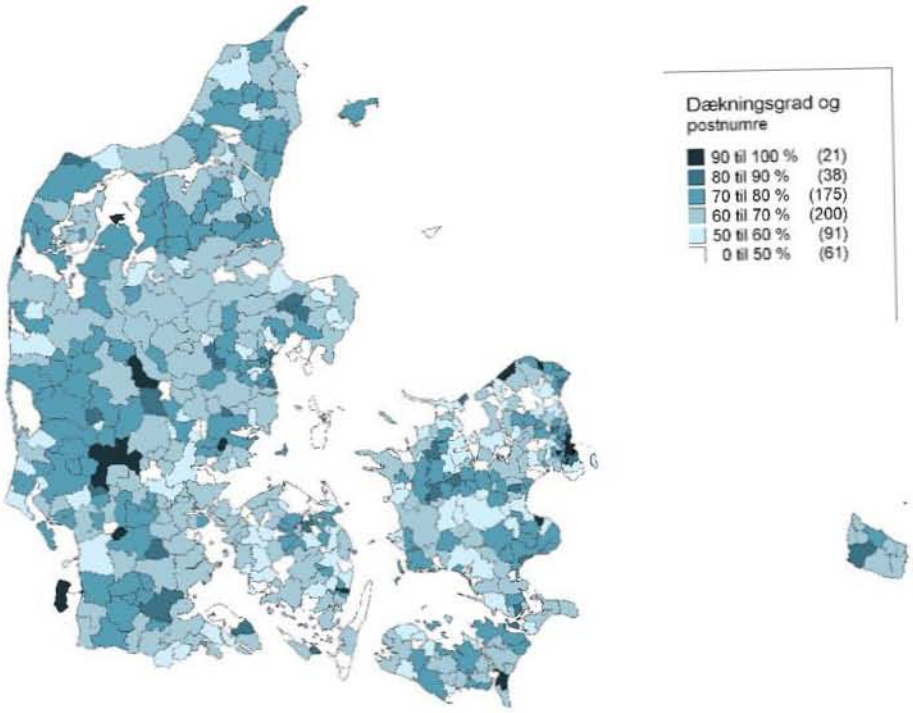

Figure 10: Availability of 10 Mbit/s connections to households and companies, distributed by zip codes

Figure 10 shows the percentage of households and companies that are able to get a broadband connection of at least 10 Mbit/s distributed on zip codes. Dark blue zip codes have more than 90% coverage whereas the lighter shades represent less coverage.

Demographic and socioeconomic data

The relevant demographic and socioeconomic data is related to Internet access, not broadband access. 85% of the Danish population in the age of 16-74 have access to the Internet at home. 90% of these Internet connections are broadband connections, which means that 76.5% of the 16 to74 year olds have an broadband Internet connection at home (not including companies). The National IT and Telecom Ageancy does not have access to data on broadband penetration for each subpopulation included below.

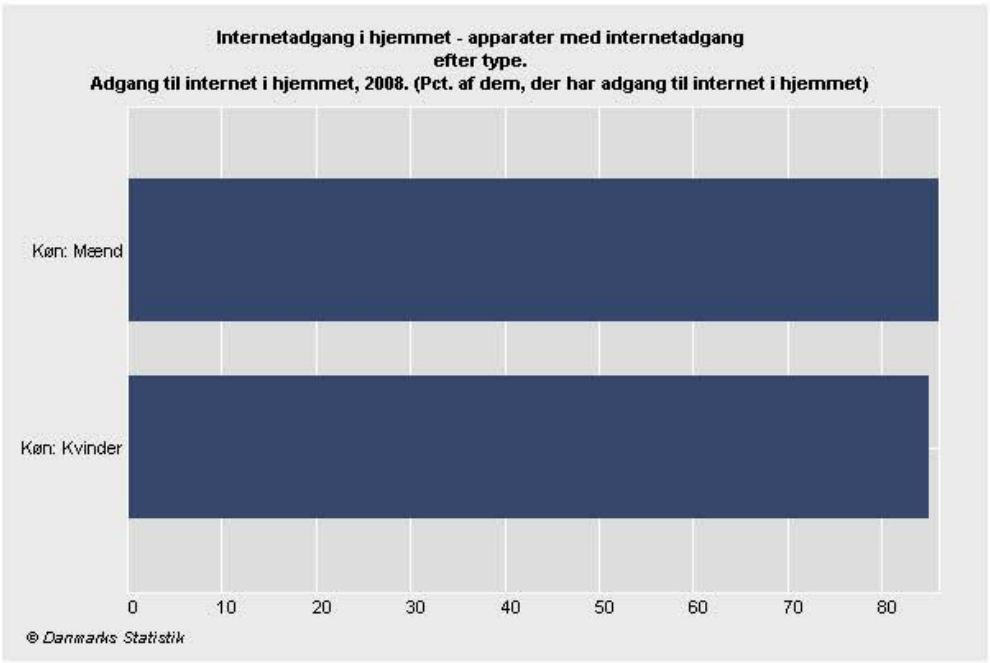

Figure 11: Internet access at home by gender

Figure 11 shows that there is only marginal difference between genders in Internet access. The top bar represents men where 86% have access to the Internet from home, the bottom bar represents women with 85%.

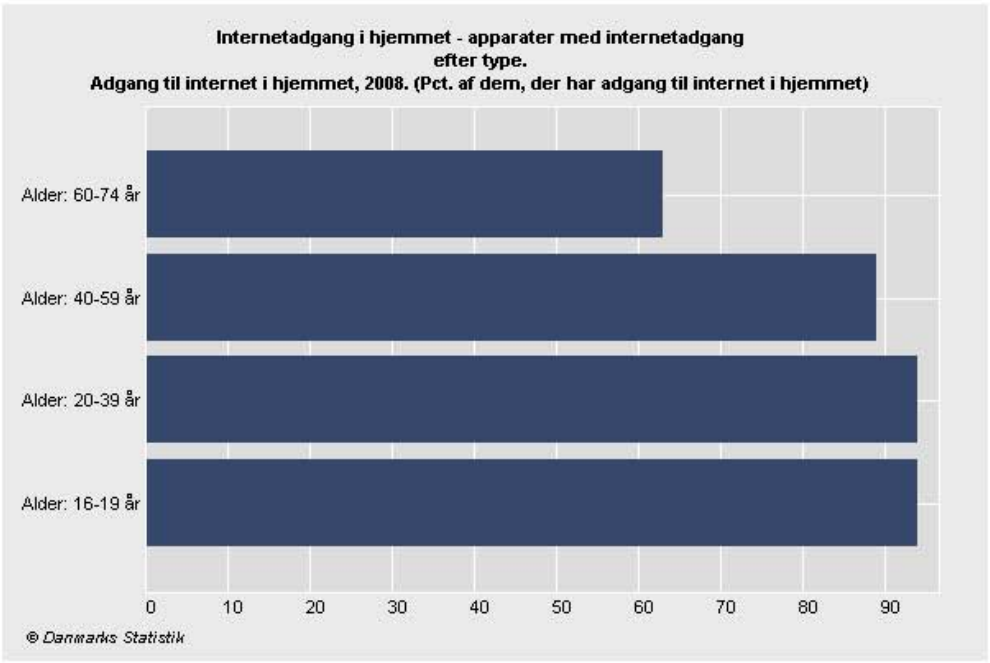

Figure 12: Internet access at home by age

Figure 12 differentiates the population by age. It is clear that age makes a difference for Internet access. 63% of ages 60-74, 89% of ages 40-59 and 94% of ages 20-39 and ages 16-19 have Internet access at home.

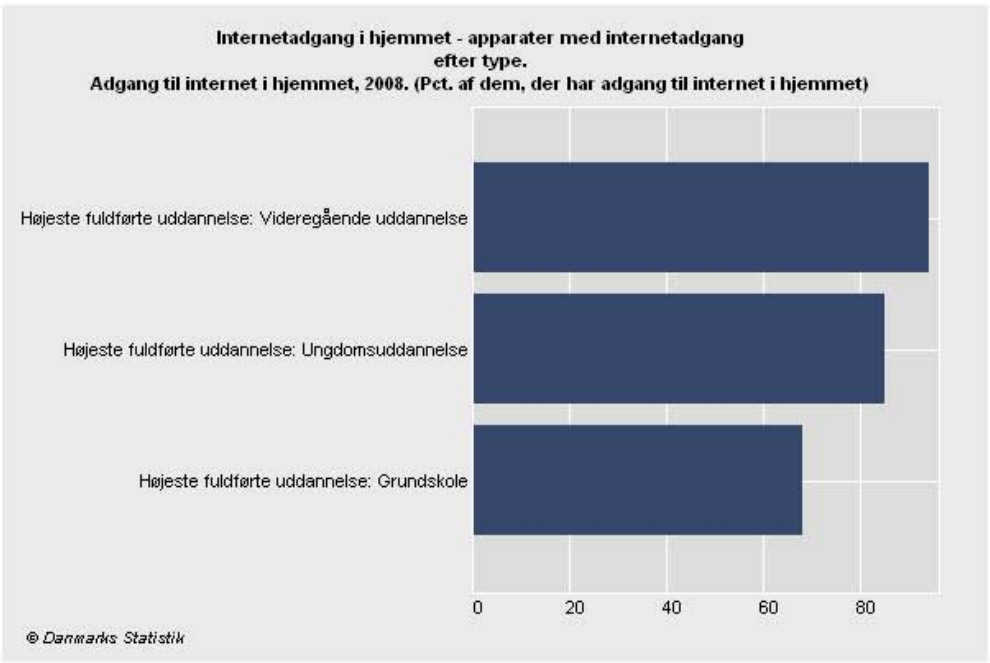

Figure 13: Internet access at home by education

Figure 13 differentiates the population by age. The more education the more likely a person is to have Internet access at home. The top bar shows the part of the population with college education or more. Of these 94% have Internet access at home. The middle bar shows the part of the population with an education at a high school level and skilled professionals. Of these 85% have Internet access at

home. The bottom bar shows the part of population with a secondary school education. Of these 68% have Internet access at home.

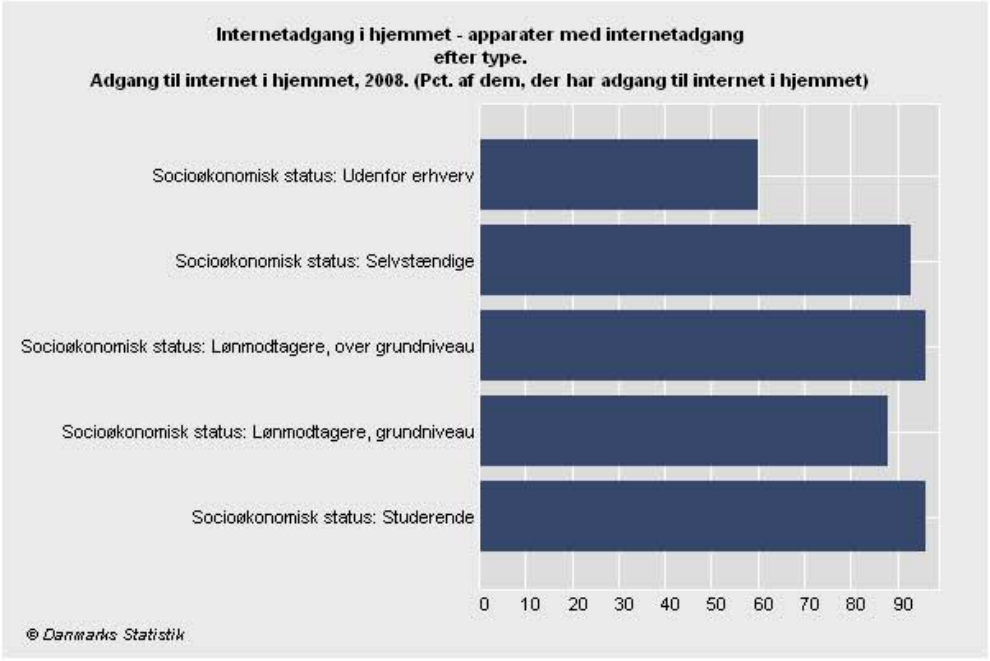

Figure 14: Internet access at home by socioeconomic status

Figure 14 differentiates the population by socioeconomic status / employment status. The top bar shows that 60% of unemployed have access to Internet at home. Other categories from the top are self-employed (93%), employed above average earner (93%), employed average earner (88%) and students (92%)

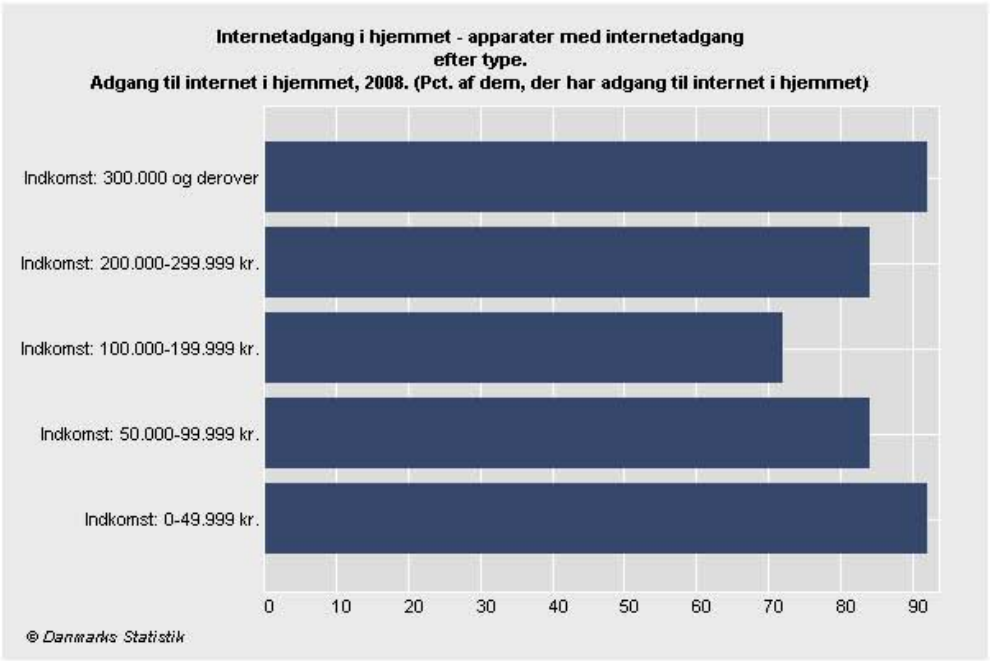

Figure 15: Internet access at home by income

Figure 15 differentiates the population by income represented in Danish kroner. From the top: Income of more than 300,000 kr. (92%), income of 200,000-299,999 kr. (84%), income of 100,000-199,999 kr. (72%), income of 50,000-99,999 kr. (84%), income of less than 49.999 kr. (92%).